ORIGINAL

BEFORE THE ARIZONA POWER PLANT

AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY AND SOUTHWEST TRANSMISSION COOPERATIVE, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR: (1) THE RECONFIGURATION OF AN EXISTING TEP 138 kV LINE TO AN SWTC 115 kV LINE FROM THE EXISTING SAGUARO SUBSTATION IN SEC. 15, T.10S., R.10E. TO THE EXISTING TORTOLITA SUBSTATION IN SEC. 23, T.10S., R.10E., PINAL COUNTY, AND (2) THE RECONSTRUCTION OF TWO EXISTING TEP 138 kV LINES AND THE ADDITION OF ONE TEP 138 kV LINE AND ONE SWTC 115 kV LINE FROM THE EXISTING TORTOLITA SUBSTATION TO THE EXISTING NORTH LOOP SUBSTATION IN SEC. 9, T.12S., R.12E. IN THE TOWN OF MARANA, PIMA COUNTY.	Docket Nos. L-00000C-09-0385-00149 L-00000CC-09-0385-00149 Case No. 149

NOTICE OF FILING WITNESS PRE-FILED TESTIMONIES, AND NOTICE OF INTENT TO PRESENT WITNESSES IN PANELS

Tucson Electric Power Company ("TEP") and Southwest Transmission Cooperative, Inc. ("SWTC") (collectively, "the Companies"), through undersigned counsel, hereby provides:

1. The Direct Testimony of SWTC witness James Burson;
2. The Direct Testimony of the Companies' witness Thomas Horst (from CH2M Hill, Inc.);
3. The Direct Testimony of the Companies' witness Renee Ericson (from CH2M Hill, Inc.); and
4. A copy of the Companies' proposed Certificate of Environmental Compatibility.

These documents will also be marked as the Companies' exhibits at the hearings. Further, the Companies provide notice of their intent to present Mr. Beck and Mr. Burson as a panel; and Mr. Horst and Ms. Ericson as a separate panel.

RESPECTFULLY SUBMITTED this 24th day of September 2009.

TUCSON ELECTRIC POWER COMPANY

SOUTHWEST TRANSMISSION COOPERATIVE, INC.

By _____

J. Matthew Derstine
Jason D. Gellman
ROSHKA DEWULF & PATTEN, PLC
One Arizona Center
400 East Van Buren, Suite 800
Phoenix, Arizona 85004
(602) 256-6100

and

Michael M. Grant
GALLAGHER & KENNEDY, PA
2575 East Camelback Road
Phoenix, Arizona 85016-9225
(602) 530-8291

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

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ARIZONA CORPORATION COMMISSION
1200 West Washington Street
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A copy of the foregoing was hand-delivered
this 28th day of September 2009 to:

Chairman John Foreman
Arizona Power Plant and Transmission Line Siting Committee
Arizona Attorney General Office
1275 West Washington Street
Phoenix, Arizona 85007

Janice M. Alward, Esq.
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Steve Olea
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Lawrence V. Robertson
P. O. Box 1448
Tubac, Arizona 85646

By _____

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

DIRECT TESTIMONY

OF

JAMES BURSON

BEFORE THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY AND SOUTHWEST TRANSMISSION COOPERATIVE, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR: (1) THE RECONFIGURATION OF AN EXISTING TEP 138 kV LINE TO AN SWTC 115 kV LINE FROM THE EXISTING SAGUARO SUBSTATION IN SEC. 15, T.10S., R.10E. TO THE EXISTING TORTOLITA SUBSTATION IN SEC. 23, T.10S., R.10E., PINAL COUNTY, AND (2) THE RECONSTRUCTION OF TWO EXISTING TEP 138 kV LINES AND THE ADDITION OF ONE TEP 138 kV LINE AND ONE SWTC 115 kV LINE FROM THE EXISTING TORTOLITA SUBSTATION TO THE EXISTING NORTH LOOP SUBSTATION IN SEC. 9, T.12S., R.12E. IN THE TOWN OF MARANA, PIMA COUNTY.	Docket No. L-00000C-09-0385-00149 Docket No. L-00000CC-09-0385-00149 Case No. 149

Direct Testimony of

James Burson

on Behalf of

Southwest Transmission Cooperative, Inc.

Q. Please state your name and business address.

A. My name is James Burson and my business address is 1000 South Highway 80, Benson, Arizona 85602.

Q. By whom are you employed and in what capacity?

A. I am the Manager of Transmission Engineering of Southwest Transmission Cooperative, Inc. ("Southwest" or "SWTC").

Q. Please give the Committee a brief description of your educational background and work experience.

A. I received a Bachelor of Science Degree in Electrical Engineering from Arizona State University in 1976, and a Masters of Science in Electrical Engineering from New Mexico State University in 1977. I am a registered professional engineer in the State of Arizona. During the course of my career, I have been employed by a large consulting engineering firm as well as several electric utilities. Projects in which I have been involved include the construction and start-up of coal and gas fired power plants, high-voltage electric substations and transmission lines of varying voltage. I currently manage the construction of all substation and transmission line projects for Southwest.

Q. What is the purpose of your testimony?

A. I am testifying in support of the joint Application for a Certificate of Environmental Compatibility ("Application") for the Saguaro to North Loop Transmission Line Project (the "Saguaro/North Loop Project") submitted by Tucson Electric Power Company ("TEP") and SWTC (collectively, the "Companies"). My testimony will cover SWTC's basic components of and its need for the Saguaro/North Loop Project. Ed Beck will testify about TEP's components of and need for the Project. Renee Ericson of CH2M

HILL will discuss resource impacts and our public outreach process. Finally, Thomas Horst—also of CH2M HILL—will testify about the selection of the Preferred Option and alternatives as well as the Preferred Option's advantages over the two alternatives.

Q. Please describe Southwest.

A. SWTC is a non-profit transmission cooperative which is owned by its member distribution cooperatives. They, in turn, are owned and governed by the members they serve at retail. SWTC has five Arizona Class A member non-profit distribution cooperatives that deliver power at retail to several rural areas of the state. Class A member Trico Electric Power Cooperative ("Trico") serves portions of Santa Cruz, Pima and Pinal Counties. Sulphur Springs Valley Electric Cooperative, Inc., Duncan Valley Electric Cooperative, Inc. and Graham County Electric Cooperative, Inc. serve primarily the Cochise, Greenlee and Graham County areas. Mohave Electric Cooperative, Inc. furnishes power at retail in Mohave County. Southwest owns and operates a power delivery system that schedules and transmits power at wholesale into these areas served by its members and others. Southwest owns about 613 miles of transmission line facilities and 21 substations. Its transmission system also interconnects to other utilities. Some of its facilities are jointly owned with the Western Area Power Administration, Salt River Project and TEP. As part of the Network Service Agreement between SWTC, Arizona Electric Power Cooperative, Inc. ("AEPCO") which is the cooperatives' power supplier and the Class A members, SWTC is required to construct or acquire all transmission facilities necessary to reliably deliver electrical power from AEPCO to the Class A member systems.

Q. Please describe Southwest's portion of the Saguaro/North Loop Project.

A. SWTC's portion consists of two transmission line segments together with construction of the new Adonis Substation. The first transmission line segment involves SWTC's reconfiguration of about 1.3 miles of an existing single-circuit TEP 138 kV line. It will be rebuilt as a single-circuit SWTC 115 kV line within the existing TEP transmission line corridor between the Saguaro Substation which is owned and operated by Arizona Public Service Company ("APS") and TEP's Tortolita Substation. To adjust for clearance issues as the SWTC line exits the Saguaro Substation, structures with a flat horizontal profile will be utilized. A mix of steel monopoles, H-frame structures and existing lattice structures will be used to convert the existing line to an SWTC single-circuit 115 kV line in this area. South to the Tortolita Substation, the structures will be new steel monopoles. After final engineering analysis, it has been determined that about 11 new steel monopole structures will be constructed along with the new H-frames in this segment. TEP will transfer the rights of use of the Arizona State Land Department ("ASLD") ROW to SWTC. This 1.3-mile rebuild is what we are referring to as Segment 1 of the Saguaro/North Loop Project.

For Segment 2, a series of quad-circuit monopoles will be constructed between the Tortolita and North Loop Substations. This quad circuit will consist of three TEP 138 kV transmission lines and one SWTC transmission line designed for operation at 138 kV, but which will be energized at 115 kV. Construction will involve the installation of new steel monopoles in the same ROW as the existing TEP line.

For Southwest's purposes, the two segments will interconnect the existing Saguaro Substation to the new SWTC Adonis Substation, which will be located on about 13 acres of ASLD land. SWTC's single-circuit 115 kV line from the Saguaro Substation will loop

into and out of the new Adonis Substation. SWTC's line will then continue to a structure just north of TEP's North Loop Substation.

Q. So, the SWTC line will not actually interconnect to the North Loop Substation?

A. No. As I mentioned, Southwest's circuit will terminate at a structure just north of the North Loop Substation, while the TEP circuits will continue into the substation. SWTC will soon file another CEC application for facilities approval to take the SWTC line from that tap to the existing Western Area Power Administration Rattlesnake Substation (the "Rattlesnake Substation").

Q. Why does SWTC need the Saguaro/North Loop Project?

A. SWTC needs the new 115 kV transmission line in order to continue to provide sufficient and reliable transmission service to Trico and, in particular, its increasing distribution load growth in Pima and Pinal Counties. Trico currently serves this region from its Thornydale Substation which is served by the TEP 46 kV transmission network. But, Trico's load growth in this area has already exceeded TEP's available transmission capacity. Therefore, this Project is absolutely necessary to remedy this existing problem. It will also provide SWTC the ability to meet future customer growth and electricity demands in this area. Finally, the new interconnection to APS at its Saguaro Substation will also improve overall system reliability.

Q. Will the Project provide benefits to entities other than the Companies?

A. Yes. The Project—when Southwest's planned line from the tap north of the North Loop Substation to the Rattlesnake Substation and associated projects are complete—will also benefit the Central Arizona Water Conservation District ("CAWCD") by providing

additional interconnection facilities to its existing 115 kV system. That will support the CAWCD water-pumping loads for the Central Arizona Project.

Q. Please summarize the engineering and analysis steps SWTC has taken in relation to this matter.

A. As part of the Network Service Agreement, SWTC and its Class A members are required to jointly plan for the construction or acquisition of new transmission facilities. Southwest first listed the Saguaro/North Loop Project in its 2006 Amended 10-year plan as the "Saguaro-Naviska-Adonis-Rattlesnake 115 kV line." In the fall of 2006, Southwest initiated preliminary studies of the proposed corridor and held a field review of portions of the proposed project with the ASLD. Over the next two years, the planning departments of Trico and SWTC met several times to evaluate various ways to reduce line losses, assure acceptable voltage levels and meet increasing demand. We also had several meetings with TEP concerning the possibility of Southwest placing the proposed 115 kV alignment in or near TEP's existing transmission line corridor and right-of-way. After discussing options with TEP, ASLD and Trico and evaluating environmental impacts, reliability and economics, the new quad-circuit option presented in this Application was chosen as the Preferred Option.

Q. What is the construction timetable for the Saguaro/North Loop Project?

A. Southwest needs to have the new transmission line and proposed Adonis Substation in service before the end of 2010. Site preparation work for the new transmission line is tentatively scheduled to begin in January of 2010 and the line is projected to be available for service by December of 2010.

Q. Please summarize your conclusions and recommendations on the Saguaro/North Loop Project.

A. The Saguaro/North Loop Project is vitally needed, among other things, to support Trico's current and anticipated electric needs in the area. The partnership with TEP is a lower cost option than SWTC building its own separate transmission line and, of course, is also less disruptive to the area. As Renee Ericson of CH2M Hill testifies, construction of the Saguaro/North Loop Project has minimal environmental impacts primarily because the Project is within an existing utility corridor. Southwest requests that the Committee grant, and the Commission affirm and approve, a Certificate of Environmental Compatibility for the Preferred Option of the Saguaro/North Loop Project.

Q. Does this conclude your testimony?

A. Yes, it does.

DIRECT TESTIMONY

OF

THOMAS HORST

BEFORE THE POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY AND SOUTHWEST TRANSMISSION COOPERATIVE, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR: (1) THE RECONFIGURATION OF AN EXISTING TEP 138 kV LINE TO AN SWTC 115 kV LINE FROM THE EXISTING SAGUARO SUBSTATION IN SEC. 15, T.10S., R.10E. TO THE EXISTING TORTOLITA SUBSTATION IN SEC. 23, T.10S., R.10E., PINAL COUNTY, AND (2) THE RECONSTRUCTION OF TWO EXISTING TEP 138 kV LINES AND THE ADDITION OF ONE TEP 138 kV LINE AND ONE SWTC 115 kV LINE FROM THE EXISTING TORTOLITA SUBSTATION TO THE EXISTING NORTH LOOP SUBSTATION IN SEC. 9, T.12S., R.12E. IN THE TOWN OF MARANA, PIMA COUNTY.	Docket Nos. L-00000C-09-0385-00149 L-00000CC-09-0385-00149 Case No. 149

DIRECT TESTIMONY OF

THOMAS HORST

ON BEHALF OF

TUCSON ELECTRIC POWER COMPANY

AND

SOUTHWEST TRANSMISSION COOPERATIVE, INC.

Q. Please state your name and address.

A. My name is Thomas Horst. My business address is CH2M Hill, Inc., 155 Grand Avenue, Suite 1000, Oakland, California.

Q. Please describe your background and experience for the Arizona Power Plant and Transmission Line Siting Committee ("Committee").

A. I have been an environmental professional for 35 years working in diverse environments throughout the United States and internationally. My educational background includes B.A., M.S., M.C. and Ph.D. Degrees in Project Management, Environmental Sciences and Statistics. I hold professional certifications from the American Fisheries Society, Fisheries Scientist No 1185, June 1976; Ecological Society of America, Senior Ecologist, June 1984; and the Project Management Institute, Project Management Professional No. 13053, June 1998.

My experience includes over 100 projects for facility siting, energy generation, transmission lines, fuel delivery, waste disposal, and environmental compliance. For the siting of transmission lines, my experience includes routing, environmental analysis and approvals, environmental restoration and environmental management for overhead, underground and undersea transmission lines. I have published professional papers and presented my work at professional meetings and symposia.

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to:

(1) describe the selection of the proposed options for the Saguaro to North Loop Transmission Line Project ("Project") included in the Application for a Certificate of Environmental Compatibility ("CEC") for the Project (hereinafter referred to as

"the Application") filed by Tucson Electric Power Company ("TEP") and Southwest Transmission Cooperative, Inc. ("SWTC") (collectively, "the Companies");

(2) describe the routes and characteristics of each of the three proposed options between TEP's Tortolita Substation and TEP's North Loop Substation (the Preferred Option, Alternative Option 1 and Alternative Option 2) contained within the Application;

(3) explain why the proposed options for the Project are environmentally compatible; and

(4) explain why the Preferred Option – a single series of quad-circuit structures between the Tortolita and North Loop Substations – is the most environmentally compatible route because it minimizes the impacts to the environment based on the factors delineated in A.R.S. § 40-360.06.

My colleague, Ms. Renee Ericson, will summarize the specific biological, cultural, visual and land use impacts as well as describing the public process used to engage the public and garner feedback about the Project.

Q. Does the Project only consist of the three options you listed above in item (2) between the Tortolita and North Loop Substations?

A. No. The Project also includes a 1.3-mile segment between the Arizona Public Service Company ("APS") Saguaro Substation and the Tortolita Substation. SWTC is reconfiguring that portion of the Project from a TEP 138 kV line to a 115 kV line primarily on new steel H-frame and steel monopole structures (*i.e.,* Segment 1). Segment 1 also utilizes existing dead-end and steel lattice structures, and will remain within existing TEP right-of-way ("ROW") that is being transferred to SWTC. Given that Segment 1 is a

rebuild of an existing single-circuit line that is only 1.3 miles long and consists of approximately a dozen structures, no alternative route options were developed for Segment 1. James Burson testifies as to SWTC's need to reconfigure this line that will then interconnect with the SWTC 115 kV circuit on the structures between Tortolita and North Loop Substations.

So, when I refer to the three proposed options in the Application, I am referring to options for the siting of the Project between the Tortolita and North Loop Substations (*i.e.* the Preferred Option, Alternative Option 1 and Alternative Option 2). This is what we refer to as Segment 2.

Q. Before discussing the selection of the proposed options for the Project proposed in the Application, please describe the study area.

A. The study area is located within both Pinal County and Pima County. A majority of the Project study area in Pima County is within the boundaries of the Town of Marana. Most of the land within the Project study area is land held in trust by the Arizona State Land Department ("ASLD"). Exhibit A-3 to the Application shows the land ownership and jurisdictions within the Project study area.

Further, the study area includes Interstate-10 ("I-10") and the Union Pacific Railroad right-of-way ("UPRR ROW") – as well as the Saguaro, Tortolita and North Loop Substations and SWTC's new Adonis Substation.

Q. How did CH2M Hill proceed in identifying potential alternative routes and options within the Project study area for Segment 2?

A. CH2M Hill worked with the Companies to identify potential routes within the study area. Notably, there were several existing infrastructure corridors including I-10, the UPRR ROW, the Central Arizona Project ("CAP") canal and other existing TEP transmission lines. We also identified four potential new routes directly east and west of the existing TEP transmission lines that are going to be reconstructed as part of the Project.

CH2M Hill developed a scoping study and identified seven potential routes in addition to the two engineering options (*i.e.,* one series of quad-circuit structures and two series of double-circuit structures). That gave us a total of 14 different alternative options to analyze. The Environmental Report, Exhibit B to the Application, details the process used in evaluating each of the routes. It was based on a set of criteria coordinated with the factors set forth in A.R.S. § 40-360.06 to determine the environmental compatibility of the Project. Figure 7 on Page B-17 of Exhibit B to the Application is a map that shows every route option originally considered in this analysis.

Q. What were the results of that analysis?

A. The results are detailed in the Application, Exhibit B at pages B-19 and B-20. Of all the route and engineering options considered – Alternative A.1 (which is the Preferred Option) scored the highest, followed closely by Alternative A.2 *(i.e.,* Alternative Option 1). These two options scored significantly better than any of the other options. Alternative B.1 (*i.e.,* Alternative Option 2) scored similar to many of the other options being analyzed. It was selected for inclusion as an option in the Application partly because it used a portion of the existing TEP ROWs (about 37% of the route).

Q. Why were the other options listed in Exhibit B at pages B-19 and B-20 eliminated from consideration?

A. Although several of the options scored similar to Alternative Option 2, those options had specific problems that warranted their elimination. For instance, four of the options involved routes adjacent to I-10 or the UPRR ROW that lack sufficient space to adequately separate the Project from that existing infrastructure. For other options, the impacts to resources would have been greater (*e.g.*, along the Santa Cruz River) and/or the need to acquire significant amounts of new ROW made the Project too costly as compared to the other options considered. Ultimately, the Companies decided that the three proposed options were the best options and should be included in the CEC Application.

Q. Please describe the Preferred Option.

A. The Preferred Option consists of one series of quad-circuit structures from the Tortolita Substation to the North Loop Substation. This will involve reconstructing two TEP 138 kV transmission lines, adding a third TEP 138 kV transmission line and a new SWTC 115 kV transmission line. It is located entirely within an existing 360-foot-wide transmission line corridor consisting of multiple TEP ROWs. The route traverses from the Tortolita Substation in Pinal County to the North Loop Substation in Pima County – within the Town of Marana.

My PowerPoint presentation shows the route on a map. Further, the Application includes a map of the route for the Preferred Option – Exhibits A-1 and A-3 to the Application (it is the route in red). Page 17 of the Application is a diagram that shows where the new quad-circuit structures will be in the existing TEP ROW. The Preferred Option uses 100 feet of existing TEP ROW in this area (out of a total of 360 feet).

Q. What is the difference between the Preferred Option and Alternative Option 1?

A. The primary difference between these two options is the structures and the associated differences in ROW width required for the structures. Alternative Option 1 consists of two series of double-circuit structures. Consequently, Alternative Option 1 uses 150 feet of existing TEP ROW (out of a total of 360 feet). The route for Alternative Option 1, however, is the same as the Preferred Option. Like the Preferred Option, Alternative Option 1 is within existing TEP ROW.

Q. Did you include visual comparisons of what the quad-circuit structures for the Preferred Option would look like versus the double-circuit structures for Alternative Option 1?

A. Yes. These are included in my PowerPoint presentation. In addition, the Application includes visual comparisons of these options:

- Figures 4-1A and 4-1B for the quad-circuit structures at Pages 6 and 7; and
- Figures 4-2A and 4-2B for the double-circuit structures at Pages 10 and 11.

Q. What is the advantage of the Preferred Option over Alternative Option 1?

A. The Preferred Option is an effective way to consolidate transmission lines and reduce the number of structures in the existing corridor. The Preferred Option gives TEP and SWTC more flexibility to minimize impacts to and avoid, if possible, sensitive natural and cultural resources within existing TEP ROW. The Preferred Option uses 50 feet less ROW. This option also leaves more room within the existing transmission line corridor for future use and lessens the need for another transmission line corridor in this area.

Q. Please describe Alternative Option 2.

A. Alternative Option 2 uses a single-series of quad-circuit structures but follows a different route than either the Preferred Option or Alternative Option 1. The route varies from those options at the point where the existing transmission line corridor intersects the CAP canal. From that point, Alternative Option 2 then follows the east edge of the CAP canal ROW to Tangerine Road within the Town of Marana. Then, the route proceeds directly east to where it again intersects with existing TEP ROW. The remainder of the route follows the existing transmission line corridor south to the North Loop Substation. Page 19 of the Application is a diagram that depicts approximately where a quad-circuit structure would be located in relation to the CAP canal ROW.

Q. How much of the route used for Alternative Option 2 differs from the route for the Preferred Option / Alternative Option 1?

A. Alternative Option 2 uses the existing transmission line corridor for approximately 37% of the total route (the total length of the route for this Option is approximately 16 miles from the Tortolita to North Loop Substations). 63% of this option will require new ROW, which is one disadvantage of this option versus the other two options proposed in the Application. The blue line in Exhibits A-1 and A-3 to the Application shows the route for Alternative Option 2; the red line shows the route for the Preferred Option and Alternative Option 1.

Q. Do Figures 4-1A and 4-1B at pages 6 and 7 of the Application accurately depict what the quad-circuit structures would look like for Alternative Option 2?

A. Yes. The structures would be the same as those used for the Preferred Option.

Q. From your perspective, why is Alternative Option 2 the least desirable option?

A. There would be significantly more disturbance of this area because 63% of this option is a new route. If selected, it would require new access roads and would establish a second utility line corridor. The Companies would also need to acquire new ROW from ASLD and private landowners, which would increase the cost of the Project. Finally, the results of our public scoping process indicated that this option has the least public support of the three options. For example, MSP Companies, a developer in the area, indicated that they oppose Alternative Option 2.

Q. Are *all* of the proposed options included in the Companies' Application environmentally compatible based on the factors in A.R.S. § 40-360.06.

A. Yes. All the proposed options scored at a level where either: (1) there was no impact; or (2) the impact can be mitigated. The scores were based on several factors, and the analysis of the options was conducted on a factor-by-factor basis. The factors that were scored corresponded to the factors in A.R.S. § 40-360.06. Specifically regarding residential development, the proposed options scored similarly, because there is residential development throughout the Project study area. Therefore, all of the proposed options are environmentally compatible.

Q. Finally, Dr. Horst, please explain why the Preferred Option is the *most* environmentally compatible option for the Project.

A. The Preferred Option scored higher than all other options during the analysis of the options. The Preferred Option is in the existing transmission line corridor and uses the least amount of ROW within that corridor. The environmental compatibility of this option was confirmed by the subsequent analyses conducted for the Preferred Option reported in Exhibit B that Renee Ericson discusses in her pre-filed testimony.

Q. Does that conclude your pre-filed Direct Testimony?

A. Yes.

DIRECT TESTIMONY

OF

RENEE ERICSON

BEFORE THE POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY AND SOUTHWEST TRANSMISSION COOPERATIVE, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR: (1) THE RECONFIGURATION OF AN EXISTING TEP 138 kV LINE TO AN SWTC 115 kV LINE FROM THE EXISTING SAGUARO SUBSTATION IN SEC. 15, T.10S., R.10E. TO THE EXISTING TORTOLITA SUBSTATION IN SEC. 23, T.10S., R.10E., PINAL COUNTY, AND (2) THE RECONSTRUCTION OF TWO EXISTING TEP 138 kV LINES AND THE ADDITION OF ONE TEP 138 kV LINE AND ONE SWTC 115 kV LINE FROM THE EXISTING TORTOLITA SUBSTATION TO THE EXISTING NORTH LOOP SUBSTATION IN SEC. 9, T.12S., R.12E. IN THE TOWN OF MARANA, PIMA COUNTY.	Docket Nos. L-00000C-09-0385-00149 L-00000CC-09-0385-00149 Case No. 149

Direct Testimony of

Renee Ericson

on Behalf of

Tucson Electric Power Company

and

Southwest Transmission Cooperative, Inc.

Q. Please state your name and address.

A. My name is Renee Ericson. My business address is CH2M Hill, Inc., 9193 South Jamaica Street, Englewood Colorado 80112.

Q. Please describe your background and experience for the Arizona Power Plant and Transmission Line Siting Committee ("Committee").

A. I received a B.S. Degree in Botany from Western New Mexico University in 1995. I have 14 years of experience in the Southwest and have worked as a field archaeologist, botanist, and ecologist for three different companies. I have seven years of experience specifically on transmission line projects. I have worked on over 100 projects in Arizona and New Mexico that include the siting and licensing of transmission lines, fiber optic lines, residential, commercial, and industrial development.

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to summarize:

(1) the biological, cultural, visual and land use impacts among the preferred and two alternative options stated in the Application for a Certificate of Environmental Compatibility ("CEC") for the Project (hereinafter referred to as "the Application") filed by Tucson Electric Power Company ("TEP") and Southwest Transmission Cooperative, Inc. ("SWTC") (collectively "the Companies") for the Saguaro to North Loop Transmission Line Project ("Project"); and

(2) the public outreach process used to garner comments and feedback from the public on the issues and concerns they had about the Project.

My colleague, Dr. Thomas Horst, testifies about the process used to select the proposed options and their general characteristics. He also testifies about the advantages of the

Preferred Option over Alternative Option 1 and Alternative Option 2 for Segment 2 of the Project (*i.e.*, between the TEP Tortolita and North Loop Substations).

Q. Does the Application include specific and more detailed descriptions of the land use, cultural, biological and visual impacts?

A. Yes. Exhibit B to the Application is an Environmental Report that discusses the environmental aspects of the Project. Other exhibits to the Application give further detail on specific impacts. Exhibit C is the Biological Evaluation that assesses riparian habitat, as well as federally-listed and special status species. Exhibit D discusses the vegetation, fish and wildlife habitat in the Project study area. Exhibit E covers the visual simulations included in Exhibit G and the impacts on views of the preferred and alternative options. Exhibit E also includes a Cultural Resource Inventory Report. Exhibit F summarizes the Project's proximity to and issues relating to recreational areas, such as parks and public trails. Exhibit H describes existing and future land uses within the Project study area and potential impacts, and Exhibit I describes Project impacts to any radio, television or other electromagnetic effects.

Q. Please summarize the Project's impact to land use.

A. The Preferred Option and the alternative options do not result in any substantial changes to land uses. There also are no direct impacts to residential, commercial or industrial uses. This is mainly because either part of or the entire Project (depending on the option selected) would be in an existing ROW. We do not anticipate a need for any zoning amendments because the Project will be in existing ROW or within areas that allow for utility facilities. Further, most of the Project is located on land held in trust by the Arizona State Land Department ("ASLD"), which is expected to maintain similar land use characteristics for the foreseeable future. Consequently, no matter what option is selected,

the Companies should not need a general plan amendment from either the Town of Marana or Pinal County.

Q. What are the impacts of the various options to existing or future trails and parks?

A. Alternative Option 2 would have some impact because it would limit the use east of the CAP canal for future trails. Both Pinal County and the Town of Marana have approved open space designations adjacent to the CAP ROW to be designated for a future trail system. Further, portions of the Phoneline Trail (which is the existing TEP access road) in the Project Study Area may be temporarily closed to remove existing structures and place new structures. Otherwise, we do not believe there are any significant impacts to existing parks or trails.

Q. Please summarize the potential impacts to historic properties and/or cultural resources.

A. The Preferred Option and Alternative Option 1 have the potential to affect up to 18 historic properties that are eligible for listing on the National Register of Historic Places (see pages E2-18 to E2-24 in Exhibit E to the Application) or that are already listed. But many of those sites will be avoided by placing the monopole away from those locations. Further, any temporary construction easement will avoid those sites. If, for any reason, avoidance is not possible, then the Companies would develop and implement a mitigation plan to address site specific impacts. Section E 2.6 of Exhibit E to the Application contains recommendations that the Companies will implement as part of the Project regarding mitigating impacts to cultural resources.

Q. Regarding biological resources, would any of the proposed options damage any critical habitat?

A. No. There are no critical habitats within the Project study area. The Preferred Option and Alternative Option 1 cross thirteen Important Riparian Areas ("IRAs") within Pima County's Conservation Land System and 49 Pima County regulated riparian habitats. Even so, the Companies will not construct any structures in any riparian areas because the washes are narrow enough to be spanned by the proposed transmission lines.

Q. What are the expected general impacts to wildlife with any of the proposed options?

A. There may be some temporary displacement of small mammals and some potential to impede wildlife movement during construction. Those impacts, however, are not expected to be permanent. This is because the amount of land committed to the Project is minor and monopoles and access roads do not create a barrier to wildlife movement.

Q. Do you anticipate any significant impacts to any special status species and other species of concern?

A. No. We do not believe there will be any direct impacts to any special status species (e.g. Lesser Long-Nosed Bat) or any wildlife of special concern in Arizona. Section C.7 of Exhibit C to the Application also contains recommendations to mitigate any impacts to biological resources.

Q. How would the Project impact vegetation – depending on which option is selected?

A. The Preferred Option will result in the least amount of ground disturbance because it involves a single series of quad-circuit monopoles in existing TEP ROW. Alternative Option 2, if selected, would result in more impact to vegetation because the majority of it will be in new ROW in previously undisturbed areas. But Alternative Option 1 will result

in the most ground disturbance and impact to vegetation because Alternative Option 1 places the four circuits on two series of double circuit monopoles. This configuration requires more ROW and twice the number of poles.

Q. Please compare the visual impacts for each of the proposed options in the Application.

A. Exhibits G-5 through G-9 to the Application are visual simulations from several key observation points ("KOPs") for the Preferred Option. None of these simulations demonstrate overly-adverse visual impacts from these KOPs for the Preferred Option. But because the Preferred Option and Alternative Option 2 utilize taller quad-circuit structures, the visual effect for these options will be greater than for Alternative Option 1.

Alternative Option 2 would create the greatest visual impact because the taller quad-circuit structures would also be in a new alignment for a majority of the route for that option. Also, the higher elevation of the CAP canal makes Alternative Option 2's transmission line structures more pronounced against the landscape and the alignment runs closer to the I-10 corridor and developed areas. Even so, the visual impacts do not render this option incompatible.

Q. Were all of these impacts incorporated into the analysis of why the Preferred Option is the most environmentally compatible option?

A. Yes. The impacts summarized above were factored into the analysis and selection of the proposed options included in the Application for consideration by the Committee and the Commission.

Q. Let's now turn to the public outreach process for the Project. Please describe how the general public was notified about the Project.

A. TEP and SWTC sent out three newsletters to residents and businesses within the Project study area. The first newsletter (mailed November 21, 2008) included over 6,000 mailings containing information about the purpose and need for the Project; a description of the Project at that time; the approvals required; and the anticipated schedule together with notice of the upcoming Public Open House (which took place December 9, 2008). The second newsletter (mailed February 12, 2009) included over 5,400 mailings to residents, landowners, developers and businesses within the Project study area that contained additional information about the engineering options and potential alternative routes being considered and notice of the second Public Open House held on February 17, 2009. There were fewer mailings for the second newsletter because a large number of the first newsletters were returned as undeliverable. The third newsletter was mailed June 22, 2009 to over 5,400 residents and businesses within the Project study area. That newsletter contained information on the results of the resource surveys I summarized earlier in my testimony, as well as a description of the proposed options included in the Application. The newsletters are included in the Application at Exhibit J-3.

Q. Was the public invited to submit comments about the Project?

A. Yes. All the newsletters included a comment form and also indicated that the public could submit comments by calling 1-866-961-6199 and leaving a voicemail message in English or Spanish. Interested residents or business owners were also advised to print a comment form at tep.com, fill it out and mail it or a letter to CH2M Hill, Inc., Attn: Renee Ericson, 5151 East Broadway, Suite 500, Tucson Arizona 85711. Finally, the public was also invited to provide comments at the public open houses.

Q. Please provide more details on the Open Houses.

A. Both Open Houses were held at the Marana Middle School Cafeteria, 11279 West Grier Road in Marana, Arizona at 5:30 p.m. on December 9, 2008 and February 17, 2009. TEP and SWTC personnel, as well as Dr. Horst and I were available to answer questions about the Project, its purpose and its benefits. The display boards showed the study area, routes and engineering options being considered, the criteria used to analyze potential routes and other information. The reproduced display boards are attached to the Application as Exhibit J-4. Seven people signed in at the first Open House; 21 people signed in at the second Open House.

Q. What principle concerns were expressed?

A. Most of the concerns centered on the visual impacts, health and safety concerns, and/or concerns about impacts to property values. Exhibit J-5 to the Application summarizes the comments members of the public made and how CH2M Hill and/or the Companies responded to those comments.

Q. How were those comments incorporated into the analysis CH2M Hill was conducting on the Project?

A. CH2M Hill and the Companies reexamined the final proposed options specifically considering the concerns from public comments. Related to the concerns about visual impacts, CH2M HILL compared the visual impacts of the Preferred Option, Alternative Option 1 and Alternative Option 2. It determined that – while Alternative Option 1 would have the least visual impact – none of the options would have such a significant impact as to render any of the options environmentally incompatible.

Regarding health and safety concerns about electromagnetic fields ("EMF"), CH2M HILL modeled EMF for the three final options. The model accurately predicts the EMF produced by linear transmission lines such as those in the Preferred Option and two alternative options. EMF from the Project should not be significant – for either the Preferred Option or for the two alternative options.

Q. Finally, how were agencies, jurisdictions, special interest groups, and tribal nations notified about the Project?

A. Notification letters were sent to 21 local, eight state and nine federal agencies, as well as 13 special interest groups. All of these entities are listed in Exhibit J-1 to the Application. In addition, 9 letters were sent to tribal nations. TEP, SWTC and CH2M Hill received responses from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service ("USFW"), ASLD, Arizona Historic Preservation Office, Arizona Department of Environmental Quality, Arizona Game and Fish Department, Pima County, Tohono O'odham Nation, Hopi and White Mountain Apache Tribes. All of the responses are included in Exhibit J-2 to the Application.

Q. What were the major concerns from these entities?

A. None of the tribes expressed any specific concerns, but two tribes requested copies of the cultural resource reports in order to evaluate the project further. USFW expressed concern over Lesser Long-Nosed Bat and Cactus Ferruginous Pygmy-Owl habitat, most specifically the removal of saguaros. Pima County indicated the Project is within an area of high environmental protection priority and stated that the siting should be within an existing corridor to limit potential impacts. The Pima County cultural resources staff expressed concern with all of the options selected, because they are within the Marana Platform Complex.

Q. How were those concerns incorporated into the analysis CH2M Hill was conducting on the Project?

A. CH2M Hill's analysis, including but not limited to a Biological Evaluation and Cultural Resource Inventory, were complete or in progress when it received agency comments. Those comments centered on habitat and environmentally sensitive areas. The Companies and CH2M Hill took those concerns into account when selecting the final options. While any option selected would have some affect on habitat, the final options will minimize the impact to the environment. In particular, the Preferred Option will impact the fewest number of acres, and will have the least impact on habitat and environmentally sensitive areas. Alternative Option 1 will have the second least amount of ground disturbance. Alternative Option 2 will have the greatest impact (out of the three proposed options) because it will disturb 63% more previously undisturbed land.

Q. Does that conclude your pre-filed Direct Testimony?

A. Yes it does.

DRAFT

PROPOSED

FORM OF CEC

CLEAN

VERSION

BEFORE THE ARIZONA POWER PLANT

AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY AND SOUTHWEST TRANSMISSION COOPERATIVE, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR: (1) THE RECONFIGURATION OF AN EXISTING TEP 138 kV LINE TO AN SWTC 115 kV LINE FROM THE EXISTING SAGUARO SUBSTATION IN SEC. 15, T.10S., R.10E. TO THE EXISTING TORTOLITA SUBSTATION IN SEC. 23, T.10S., R.10E., PINAL COUNTY, AND (2) THE RECONSTRUCTION OF TWO EXISTING TEP 138 kV LINES AND THE ADDITION OF ONE TEP 138 kV LINE AND ONE SWTC 115 kV LINE FROM THE EXISTING TORTOLITA SUBSTATION TO THE EXISTING NORTH LOOP SUBSTATION IN SEC. 9, T.12S., R.12E. IN THE TOWN OF MARANA, PIMA COUNTY.	Docket Nos. L-00000C-09-0385-00149 L-00000CC-09-0385-00149 Case No. 149

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

Pursuant to notice given as provided by law, the Arizona Power Plant and Transmission Line Siting Committee (the "Committee") held public hearings on October 6, 7, and 8, 2009, in Tucson, all in conformance with the requirements of Arizona Revised Statutes ("A.R.S.") § 40-360, *et seq.*, for the purpose of receiving evidence and deliberating on the joint Application of Tucson Electric Power Company ("TEP") and Southwest Transmission Cooperative, Inc. ("SWTC") (collectively "the Applicants") for a Certificate of Environmental Compatibility ("CEC") in the above-captioned case (the "Project").

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David L. Eberhart, P.E.	Designee for Chairman, Arizona Corporation Commission
Paul Rasmussen	Designee for Director, Arizona Department of Environmental Quality
Jessica Youle	Designee for Director, Energy Department, Arizona Department of Commerce
Jeff McGuire	Appointed Member
Bill Mundell	Appointed Member
Patricia Noland	Appointed Member
Michael Palmer	Appointed Member
Michael Whalen	Appointed Member
Barry Wong	Appointed Member

The Applicants were represented by: J. Matthew Derstine and Jason D. Gellman of Roshka, DeWulf & Patten, PLC, and Marcus G. Jerden of UniSource Energy Corporation for TEP – and Michael M. Grant of Gallagher & Kennedy, P.A., for SWTC. The following parties were granted intervention pursuant to A.R.S. § 40-360.05: Pinal County, represented by Lawrence V. Robertson Jr., .

At the conclusion of the hearings, the Committee, having received the Application, the appearances of the parties, the evidence, testimony and exhibits presented at the hearings, and being advised of the legal requirements of A.R.S. §§ 40-360 to 40-360.13, upon motion duly made and seconded, voted X to X to grant the Applicants this CEC (Case No. 149) for the Project to: (1) reconfigure approximately 1.3 miles of an existing TEP 138 kV line to an SWTC 115 kV line on steel structures within the TEP right-of-way ("ROW") that will be transferred from TEP to SWTC, from the existing Saguaro Substation, in T.10S, R.10E., Section 15 (owned by Arizona Public Service Company) to the vicinity of the existing Tortolita Substation in T.10S., R10E., Section 23 (owned by TEP) in Pinal County; and (2) reconstruct two existing TEP 138 kV lines from wooden H-frame structures, add one TEP 138 kV line from the existing TEP Tortolita Substation, and add one SWTC 115 kV line from the vicinity of the Tortolita Substation, to the

ROSHKA DEWULF & PATTEN, PLC
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PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
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existing TEP North Loop Substation, in T.12S., R.12E., Section 9, in the Town of Marana, Pima County. The latter portion of the Project will include construction of one series of quad-circuit steel monopoles (to accommodate all four lines described above). These structures will be located entirely within an existing corridor consisting of multiple TEP rights-of-way (ROWs) totaling 360 feet and will utilize approximately 100 feet of the western portion of that corridor for approximately 14.4 miles from the Tortolita to the North Loop Substations. A legal description and location map of the Project is attached as Exhibit A. The quad-circuit steel monopoles will extend from the Tortolita Substation, located in the northeast quarter of Section 23, T. 10S., R. 10E., in a 360-foot wide right-of-way south to a point also in said NE ¼. It then will proceed southeasterly to an angle point in the South half of Section 33, T.11S., R.12E. From this point the construction will extend south to Tangerine Road and continue south to the North Loop Substation, located in the southwest quarter of Section 9, T.12S., R.12E.

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TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

CONDITIONS

This Certificate is granted upon the following conditions:

1. The Applicants or their assignees shall obtain all approvals and permits required by the United States, the State of Arizona, Pinal County, Pima County, the Town of Marana, and any other governmental entities having jurisdiction necessary to construct the Project.
2. The Applicants or their assignees shall comply with all existing applicable statutes, ordinances, master plans and regulations of the United States, the State of Arizona, Pinal County, Pima County, the Town of Marana, and any other governmental entities having jurisdiction during the construction and operation of the Project.
3. If any archaeological, paleontological or historical site or object that is at least fifty years old is discovered on state, county or municipal land during the construction or operation of the Project, the Applicants or their

representative in charge shall promptly report the discovery to the Director of the Arizona State Museum, and in consultation with the Director, shall immediately take all reasonable steps to secure and maintain the preservation of the discovery, pursuant to A.R.S. § 41-844.

4. If human remains and/or funerary objects are encountered on private land during the course of any ground-disturbing activities during construction or operation of the Project, the Applicants or their assignees shall cease work on the affected area of the Project and notify the Director of the Arizona State Museum, pursuant to A.R.S. § 41-865.

5. The Applicants or their assignees shall comply with the notice and salvage requirements of the Arizona Native Plant Law (A.R.S. §§ 3-901 et seq.) and shall, to the extent feasible, minimize the destruction of native plants during the construction and operation of the Project.

6. This authorization to construct this Project shall expire five years from the date the Certificate is approved by the Commission unless the Project is capable of operation. However, prior to expiration, the Applicants or their assignees may request that the Commission extend this time limitation.

7. In the event that the Project requires an extension of the term of this Certificate prior to completion of construction, Applicants or their assignees shall use reasonable means to notify all landowners, neighborhood associations registered with the local governing jurisdiction, and residents within one mile of the Project, all persons who made public comment at this proceeding, and all parties to this proceeding of the request and the time and place of the proceeding at which the Commission will consider the request for extension.

8. The Applicants or their assignees shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the transmission lines and related facilities

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
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addressed in this Certificate. The Applicants or their assignees shall maintain written records for a period of five years of all complaints of radio or television interference attributable to operation, together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution shall be noted and explained. Upon request, the written records shall be provided to the Staff of the Commission.

9. Within 120 days of the Commission decision granting this Certificate, Applicants or their assignees will post signs in public rights-of-way giving notice of the Project corridor to the extent authorized by law. Such signs shall be placed in prominent locations at reasonable intervals so that the public is notified along the full length of the Project until the transmission structures are constructed. To the extent practicable, within 45 days of securing easement or right-of-way for the Project, the Applicants or their assignees shall erect and maintain signs providing public notice that the property is the site of future transmission lines. Such signage shall be no smaller than a normal roadway sign. The signs shall advise:

   (a) That the site has been approved for the construction of Project facilities;

   (b) The expected date of completion of the Project facilities;

   (c) A phone number for public information regarding the Project;

   (d) The name of the Project;

   (e) The name of the Applicant; and

   (f) The website of the Project.

10. Applicant or their assignee(s), shall design the transmission lines to incorporate reasonable measures to minimize impacts to raptors.

11. Applicant or their assignee(s), shall use non-specular conductor and dulled surfaces for the Project's transmission line structures.

12. Before construction on this Project may commence, the Applicants shall file a

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400 NORTH 5TH STREET - SUITE 1000
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construction mitigation and restoration plan ("Plan") with ACC Docket Control and provide copies to all Parties. Where practicable, the Plan shall specify the Applicants' plans for construction access and methods to minimize impacts to wildlife and to minimize vegetation disturbance outside of the Project right-of-way particularly in drainage channels and along stream banks, and shall re-vegetate, unless waived by the landowner, native areas of construction disturbance to its preconstruction state outside of the power-line right of way after construction has been completed. The Plan shall specify the Applicants' plans for coordination with the Arizona Game and Fish Department and the State Historic Preservation Office. The Applicants shall use existing roads for construction and access where practicable and the Plan shall specify the manner in which the Applicants make use of existing roads.

13. With respect to the Project, Applicants shall participate in good faith in state and regional transmission study forums to coordinate transmission expansion plans related to the Project and to resolve transmission constraints in a timely manner.

14. The Applicants shall provide copies of this Certificate to Pinal County, Pima County, the Town of Marana, the Arizona State Land Department, the State Historic Preservation Office, and the Arizona Game and Fish Department.

15. Prior to the date construction commences on this Project, the Applicants shall provide known homebuilders, neighborhood associations registered with the local governing jurisdiction and developers of record within one mile of the center line of the Certificated route the identity, location, and a pictorial depiction of the type of power line being constructed, accompanied by a written description, and encourage the developers and homebuilders to include this information in the developers' and homebuilders' homeowners' disclosure statements.

16. Before commencing construction of Project facilities located parallel to and within 100 feet of any existing natural gas or hazardous liquid pipeline, the Applicants

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TWO ARIZONA CENTER
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FACSIMILE 602-256-6800

shall:

(a) Perform the appropriate grounding and cathodic protection studies to show that the Project's location parallel to and within 100 feet of such pipeline results in no material adverse impacts to the pipeline or to public safety when both the pipeline and the Project are in operation. If material adverse impacts are noted in the studies, Applicants shall take appropriate steps to ensure that such material adverse impacts are mitigated. Applicants shall provide to Commission Staff reports of studies performed; and

(b) Perform a technical study simulating an outage of the Project that may be caused by the collocation of the Project parallel to and within 100 feet of the existing natural gas or hazardous liquid pipeline. This study should either: i) show that such outage does not result in customer outages; or ii) include operating plans to minimize any resulting customer outages. Applicants shall provide a copy of this study to Commission Staff.

17. Applicants or their assignees will follow the latest Western Electricity Coordinating Council/North American Electric Reliability Corporation Planning standards as approved by the Federal Energy Regulatory Commission, and National Electrical Safety Code construction standards.

18. The Applicants or their assignees shall submit a self-certification letter annually, identifying progress made with respect to each condition contained in the Certificate, including which conditions have been met. Each letter shall be submitted to the Docket Control of the Arizona Corporation Commission on May 1 beginning in 2010. Attached to each certification letter shall be documentation explaining how compliance with each condition was achieved. Copies of each letter along with the corresponding documentation shall be submitted to the Arizona Attorney General, the Department of Commerce Energy Office and the Parties. The requirement for self-certification shall expire on the date the Project is placed into

operation.

19. Within sixty (60) days of the Commission decision granting this Certificate, the Applicants or their assignees shall make good faith efforts to commence discussions with private landowners, on whose property the Project corridor is located, to identify the specific location for the Project's right-of-way and placement of poles.

20. The Applicants or their assignees shall make reasonable efforts to work with private landowners on whose property the Project right-of-way will be located, to mitigate the impacts of the location, construction, and operation of the Project on private land.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This Certificate incorporates the following findings of fact and conclusions of law:

1. The Project aids the state in meeting the need for an adequate, economical and reliable supply of electric power.

2. The conditions placed on the Project in the CEC by the Committee effectively minimize the impact of the Project on the environment and ecology of the state.

3. The Project is in the public interest because the Project's contribution to meeting the need for the adequate, economical and reliable supply of electric power outweighs the minimized impact of the Project on the environment and ecology of the state.

DATED this ___ day of _____ 2009.

THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

_____
Hon. John Foreman, Chairman

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
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Exhibit A

A transmission line corridor of 360' width, lying 30' westerly and 330' easterly of the survey control line, as determined from Arizona State Plane Coordinate mapping, as more particularly described as follows:

BEGINNING at a point on the north line of Section 23 (N562,622.95 E891,682.33), said point being on the south boundary of the Arizona Public Service **Saguaro Generating Station and Substation** property site, which point also bears North 89 degrees 44 minutes 34 seconds East, 78.24 feet from the northwest corner of said Section 23 and to which National Geodetic Survey control point PID CZ0360 (Designation: 1899) bears South 09 degrees 01 minutes 18 seconds West, 1,430.23 feet;

Thence South 53 degrees 51 minutes 46 seconds East, 12,064.09 feet;

Thence South 59 degrees 28 minutes 10 seconds East, 6,852.47 feet;

Thence South 45 degrees 58 minutes 05 seconds East, 7,122.16 feet;

Thence South 51 degrees 19 minutes 24 seconds East, 41,532.50 feet;

Thence South 00 degrees 44 minutes 11 seconds East, 10,003.95 feet;

Thence South 83 degrees 01 minutes 13 seconds West, 733.23 feet;

Thence South 00 degrees 27 minutes 26 seconds West, 493.85 feet;

Thence South 10 degrees 42 minutes 07 seconds East, 285.30 feet;

Thence South 15 degrees 32 minutes 53 seconds East, 137.63 feet to the terminus point in **North Loop Substation** (N510,123.46 E944,358.78) to which Geodetic Survey control point PID CZ0522 (Designation: H 140) bears South 18 degrees 51 minutes 45 seconds East, 1476.32 feet.

Total length of the above-described centerline is 79,225.18 feet or 15.005 miles, more or less.

REDLINED

VERSION

BEFORE THE ARIZONA POWER PLANT

AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY AND SOUTHWEST TRANSMISSION COOPERATIVE, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR: (1) THE RECONFIGURATION OF AN EXISTING TEP 138 kV LINE TO AN SWTC 115 kV LINE FROM THE EXISTING SAGUARO SUBSTATION IN SEC. 15, T.10S., R.10E. TO THE EXISTING TORTOLITA SUBSTATION IN SEC. 23, T.10S., R.10E., PINAL COUNTY, AND (2) THE RECONSTRUCTION OF TWO EXISTING TEP 138 kV LINES AND THE ADDITION OF ONE TEP 138 kV LINE AND ONE SWTC 115 kV LINE FROM THE EXISTING TORTOLITA SUBSTATION TO THE EXISTING NORTH LOOP SUBSTATION IN SEC. 9, T.12S., R.12E. IN THE TOWN OF MARANA, PIMA COUNTY.	Docket Nos. L-00000C-09-0385-00149 L-00000CC-09-0385-00149 Case No. 149

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TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
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This Certificate is granted upon the following conditions:

1. The Applicants or their assignees shall obtain all approvals and permits required by the United States, the State of Arizona, Pinal County, Pima County, the Town of Marana, and any other governmental entities having jurisdiction necessary to construct the Project.
2. The Applicants or their assignees shall comply with all existing applicable statutes, ordinances, master plans and regulations of the United States, the State of Arizona, Pinal County, Pima County, the Town of Marana, and any other governmental entities having jurisdiction during the construction and operation of the ~~transmission line~~Project.
3. If any archaeological, paleontological or historical site or object that is at least fifty years old is discovered on state, county or municipal land during the construction or operation of the Project, the Applicants or their~~its~~

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

representative in charge shall promptly report the discovery to the Director of the Arizona State Museum, and in consultation with the Director, shall immediately take all reasonable steps to secure and maintain the preservation of the discovery, pursuant to~~.~~ A.R.S. § 41-844.

4. If human remains and/or funerary objects are encountered on private land during the course of any ground-disturbing activities during ~~relating to the~~ construction or operation of the ~~transmission line~~Project, the Applicants or their assignees shall cease work on the affected area of the Project and notify the Director of the Arizona State Museum, pursuant to~~.~~ A.R.S. § 41-865.

5. The Applicants or their assignees shall comply with the notice and salvage requirements of the Arizona Native Plant Law (A.R.S. §§ 3-901 et seq.) and shall, to the extent feasible, minimize the destruction of native plants during the construction and operation of the Project.

~~66. The Applicants shall not assign this Certificate or its interest in the Project authorized by this Certificate without prior approval of the Commission. Any assignment of this Certificate shall require the assignee to assume all responsibilities of the Applicants listed in this Certificate.~~

~~7~~. This authorization to construct this Project shall expire five years from the date the Certificate is approved by the Commission unless the Project is capable of operation. However, prior to expiration, the Applicants or their~~its~~ assignees may request that the Commission extend this time limitation.

7. In the event that the Project requires an extension of the term of this Certificate prior to completion of construction, ~~Applicants~~ Applicants or their assignees shall use reasonable means to notify all landowners, neighborhood associations registered with the local governing jurisdiction, and residents within one mile of the Project ~~corridor [location]~~, all persons who made public comment at this proceeding, and all parties to this proceeding of the request and the time and

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place of the proceeding athearing in which the Commission will consider the request for extension.

8. The ~~Applicants~~ Applicants or their assignees shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the transmission lines and related facilities addressed in this Certificate. The ~~Applicants~~ Applicants or their assignees shall maintain written records for a period of five years of all complaints of radio or television interference attributable to operation, together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution shall be noted and explained. Upon request, the written records shall be provided to the Staff of the Commission.

9. Within 120 days of the Commission decision granting this Certificate, ~~Applicants~~ Applicants or their assignees will post signs in public rights-of-way giving notice of the Project corridor to the extent authorized by law. Such signs~~The Applicants~~ shall be placed ~~signs~~ in prominent locations at reasonable intervals so~~such~~ that the public is notified along the full length of the ~~transmission line~~Project until the transmission structures are constructed. To the extent practicable, within 45 days of securing easement or right-of-way for the Project, the Applicants or their assignees shall erect and maintain signs providing public notice that the property is the site of ~~a~~ future transmission lines. Such signage shall be no smaller than a normal roadway sign. The signs shall advise:

(a) That the site has been approved for the construction of Project facilities;

(b) The expected date of completion of the Project facilities;

(c) A phone number for public information regarding the Project;

(d) The name of the Project;

(e) The name of the Applicant; and

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(f) The website of the Project.

10. Applicant~~,~~ or their~~its~~ assignee(s), shall design the transmission lines to incorporate reasonable measures to minimize impacts to raptors.

11. Applicant~~,~~ or their~~its~~ assignee(s), shall use non-specular conductor and dulled surfaces for the Project's transmission line structures.

12. Before construction on this Project may commence, the Applicants shall file a construction mitigation and restoration plan ("Plan") with ACC Docket Control and provide copies to all Parties. Where practicable, the Plan shall specify the Applicants' plans for construction access and methods to minimize impacts to wildlife and to minimize vegetation disturbance outside of the Project right-of-way particularly in drainage channels and along stream banks, and shall re-vegetate, unless waived by the landowner, native areas of construction disturbance to its preconstruction state outside of the power-line right of way after construction has been completed. The Plan shall specify the Applicants' plans for coordination with the Arizona Game and Fish Department and the State Historic Preservation Office. The Applicants shall use existing roads for construction and access where practicable and the Plan shall specify the manner in which the Applicants make use of existing roads.

13. With respect to the Project, Applicants shall participate in good faith in state and regional transmission study forums to coordinate transmission expansion plans related to the Project and to resolve transmission constraints in a timely manner.

14. The Applicants shall provide copies of this Certificate to- Pinal County, Pima County, the Town of Marana~~[all affected governmental entities, e.g., affected cities and counties~~, the Arizona State Land Department, the State Historic Preservation Office, and the Arizona Game and Fish Department~~]~~.

15. Prior to the date construction commences on this Project, the Applicants shall provide known homebuilders, neighborhood associations registered with the local

governing jurisdiction and developers of record within one mile of the center line of the Certificated route ~~[power plant]~~ the identity, location, and a pictorial depiction of the type of power line ~~[plant]~~ being constructed, accompanied by a written description, and encourage the developers and homebuilders to include this information in the developers' and homebuilders' homeowners' disclosure statements.

16. Before commencing construction of Project facilities located parallel to and within 100 feet of any existing natural gas or hazardous liquid pipeline, the Applicants shall:

(a) Perform the appropriate grounding and cathodic protection studies to show that the Project's location parallel to and within 100 feet of such pipeline results in no material adverse impacts to the pipeline or to public safety when both the pipeline and the Project are in operation. If material adverse impacts are noted in the studies, Applicants shall take appropriate steps to ensure that such material adverse impacts are mitigated. Applicants shall provide to Commission Staff reports of studies performed; and

(b) Perform a technical study simulating an outage of the Project that may be caused by the collocation of the Project parallel to and within 100 feet of the existing natural gas or hazardous liquid pipeline. This study should either: i) show that such outage does not result in customer outages; or ii) include operating plans to minimize any resulting customer outages. Applicants shall provide a copy of this study to Commission Staff.

17. Applicants or their assignees will follow the latest Western Electricity Coordinating Council/North American Electric Reliability Corporation Planning standards as approved by the Federal Energy Regulatory Commission, and National Electrical Safety Code construction standards.

18. The Applicants or their assignees shall submit a self-certification letter annually,

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
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FACSIMILE 602-256-6800

identifying progress made with respect to each condition contained in the Certificate, including which conditions have been met. Each letter shall be submitted to the Docket Control of the Arizona Corporation Commission on May 1 beginning in 2010. Attached to each certification letter shall be documentation explaining how compliance with each condition was achieved. Copies of each letter along with the corresponding documentation shall be submitted to the Arizona Attorney General, ~~and~~ the Department of Commerce Energy Office and the Parties. The requirement for ~~the~~ self-certification shall expire on the date the Project is placed into operation.

19. Within sixty (60) days of the Commission decision granting this Certificate, the Applicants or their assignees shall make good faith efforts to commence discussions with private landowners, on whose property the Project corridor is located, to identify the specific location for the Project's right-of-way and placement of poles.

20. The Applicants or their assignees shall make~~expeditiously pursue~~ reasonable efforts to work with private landowners on whose property the Project right-of-way will be located, to mitigate the impacts of the location, construction, and operation of the Project on private land.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This Certificate incorporates the following findings of fact and conclusions of law:

1. The Project aids the state in meeting the need for an adequate, economical and reliable supply of electric power.
2. The conditions placed on the Project in the CEC by the Committee effectively minimize the impact of the Project on the environment and ecology of the state.
3. The Project is in the public interest because the Project's contribution to meeting the need for the adequate, economical and reliable supply of electric power

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
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outweighs the minimized impact of the Project on the environment and ecology of the state.

DATED this ___ day of _____ 2009.

THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

_____
Hon. John Foreman, Chairman

ROSHKA DEWULF & PATTEN, PLC
TWO ARIZONA CENTER
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Exhibit A

A transmission line corridor of 360' width, lying 30' westerly and 330' easterly of the survey control line, as determined from Arizona State Plane Coordinate mapping, as more particularly described as follows:

BEGINNING at a point on the north line of Section 23 (N562,622.95 E891,682.33), said point being on the south boundary of the Arizona Public Service **Saguaro Generating Station and Substation** property site, which point also bears North 89 degrees 44 minutes 34 seconds East, 78.24 feet from the northwest corner of said Section 23 and to which National Geodetic Survey control point PID CZ0360 (Designation: 1899) bears South 09 degrees 01 minutes 18 seconds West, 1,430.23 feet;

Thence South 53 degrees 51 minutes 46 seconds East, 12,064.09 feet;

Thence South 59 degrees 28 minutes 10 seconds East, 6,852.47 feet;

Thence South 45 degrees 58 minutes 05 seconds East, 7,122.16 feet;

Thence South 51 degrees 19 minutes 24 seconds East, 41,532.50 feet;

Thence South 00 degrees 44 minutes 11 seconds East, 10,003.95 feet;

Thence South 83 degrees 01 minutes 13 seconds West, 733.23 feet;

Thence South 00 degrees 27 minutes 26 seconds West, 493.85 feet;

Thence South 10 degrees 42 minutes 07 seconds East, 285.30 feet;

Thence South 15 degrees 32 minutes 53 seconds East, 137.63 feet to the terminus point in **North Loop Substation** (N510,123.46 E944,358.78) to which Geodetic Survey control point PID CZ0522 (Designation: H 140) bears South 18 degrees 51 minutes 45 seconds East, 1476.32 feet.

Total length of the above-described centerline is 79,225.18 feet or 15.005 miles, more or less.